ELECTRONIC COUNTING SCALE

Operation Manual

1 ***JCS- A SERIES***

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Ⅰ. Specification:

- § Rechargeable accumulator inside, you can use the scale during recharging.
- § Auto zero-setting when switch on the scale.
- § Auto zero-tracing.
- § 1~100 times of accumulating.
- § Power supply: AC 220V (± 10%) / 50 Hz, 110V/60HZ, DC 6V / 4Ah (Rechargeable accumulator inside).
- § Working temperature range: 0 ℃ ~ +40 ℃
- § Relative humidity: ≤ 85 % RH

Ⅱ. Operation:

The scale must to be placed on the stable and flat surface, adjust its four screw carrier pole to horizontal, switch on the power, scale begin self-testing until getting normal weighing condition, now all the windows display zero. The function of the keys as follow:

1. **Switch on the power**, scale begin self-testing until getting normal weighing condition.
2. **【Zero】key:** Set the weight window to zero, and the zero signal displays. (Range≤ 4%FS)
3. 【Tare】key: Set or clear the tare (Range≤1/3F.S)

(1) Put on the object, then press the key, the weight window displays zero, the tare signal displays. You can't use the scale in the state of zero signal displaying in long term, otherwise the function of auto zero-tracing will disappear, and the zero point will excurse.
(2) Take away the weighing object, scale indicate negative, press this key again to clear tare.

4. **【0~9】number key:** For input the data from right to left in turn in UnitWeight window, input number will auto clear while next key inputting after 3 seconds
5. **【Clear】key:** Under weighing condition, press this key to clear the unit weight.
6. **【Accu】key:** Press the key to get to state of accumulating (invalid when the number window displays zero). Now the weight window displays "Add", the unit weight window displays "X", the "X" means the time to be accumulated, the number window displays total number accumulated. In the state of accumulating, you can press any key to get back to state of weighing except【Accu】key, the previous data remains in memory.
7. **【A.C.】key:** Clear the memorized accumulating data, exit the accumulating state and the accumulate mark will disappear.
8. **【Samp】key:** Put enough sample on the platform, then input the sample quantity, it first displays in unit weight window. Then press this key while the weight display is stable, the number shifts to number window, the unit weight window displays the unit weight of the sample. If the unit weight calculated is less than 80% of the graduation, the "U.W" signal display. If the weight of sample is less than 4 time of graduation, then the "sample" signal display.

If you need to change the quantity of sample , you should first press the k e y【Clear】, then input the new number. If you've input the number for 3 seconds, then you can input the new number directly without pressing the key【Clear】.

When the unit weight is max. four decimal points, the unit weight value can't exceed 1 kg. Or there will be calculate mistake.

9. Backlight On/Off: Press【Zero】key for 3-4 seconds, the backlight will be switched on or off
10. **Adjust the decimal point number for the unit weight: Enter the unit weight form the keyboard, when the unit weight is zero, press number key "0" to adjust the decimal point number for the unit weight**
11. **Alarm indication:**

(1) The weight window displays "-----" with continuously alarm sound when the weight over 100%FS+9d, if the ADC overflows, the weight window displays "—Adc—"with continuously alarm sound. For these instance, the weight should be taken away.
(2) The number window displays "—OF—" when the number or accumulated number over

99999. The scale will not response if the accumulated times over 100, but the original accumulated data will be retained.
(3) If the voltage of the accumulator is low, the weight window displays "—Lb—" while the weight is zero (The weight display will recover to normal when it is loaded). Under this condition, you can use the scale in a short time, but you should plug in the AC plug as soon as possible to recharge the accumulator.
(4) The weight window displays "HHHH" or "LLLL " when the zero weight is higher or lower than the permitted range.
(5) If the weight window displays "-SYS-", it means the system parameter is wrong., you should send it for maintain immediately.
(6) If the weight window displays "Err-2" after self-testing, it means unstable weighing, please see **III/1/(2),(3)**

III.Weight calibration

1. Press【A.C.】key till the weight window display "-CAL.-", the unit weight window and the number window display 0 or smaller number

2. Weight calibration:

(1) F.S. calibration: Put enough weight on the platform. press【Accu】when display is stable. The calibration finish.

(2) Calibrate by any weight: Press【Tare】, then weight window displays "-----". Unit weight window and number window don't change. Input the weight by keyboard, then put the corresponding weight on the platform. Press 【Accu 】when display is stable. The calibration finish.

IV. RS232 transmission confer Data format (optional)

1. RS232 setting:

Press "Samp" "1" under general weighing mode, the number window display "Adr" to set the machine address, the unit weight window display the original set address, the weight window display "------" , press number key to enter the machine address, the machine address range is from 0-254, press "Accu" key to confirm, finish machine address setting, the number window display"StAtE", the unit weight window display"CON/OFF", press "Tare" key to select serial interface state (CON—Continues sending, OFF---Close serial interface), press "Accu" to confirm and start the setting of the Baud rate, the number window display "bAUd", the unit window display"1200/2400/4800/9600", press "Tare" key to select the Baud rate, press "A.C." to confirm, RS232 setting finished.

2. Data format: Every message include 13 frame, they are following:

No. 1: D0~D7 ——0FFH(start bit)
No. 2: D0~D2 —— Decimal point position for weight window(1-4，1 means no decimal point)
D3~D4 —— NC
D5 —— 1 means weight is negative ，0 means weight is positive
D6 —— 1 means weight is stable，0 means weight is unstable
D7 —— 1 means weight is overflow，0 means weight is not overflow
No. 3: D0~D7 —— BCD1（ LSB for net weight）
No. 4: D0~D7 —— BCD2（MSB for net weight）
No. 5: D0~D7 —— BCD3（HSB for net weight）
No. 6: D0~D2 —— number of unit weight decimal point（3－5）
D3———— 1 means unit weight is insufficient, 0 means normal
D4———— sampling insufficient signal
D5———— number overflow singal
D6———— 1 means the sending number is accumulated number, 0

means once number
D7———— unit weight overflow signal
No. 7: D0~D7 —— BCD4（ LSB for number）
No. 8: D0~D7 —— BCD5（MSB for number）
No. 9: D0~D7 —— BCD6（HSB for number）
No. 10: D0~D7 —— BCD7（ LSB for unit weight）
No.11: D0~D7 —— BCD8（MSB for unit weight）
No. 12: D0~D7 —— BCD9（HSB for unit weight）
No. 13: D0~D7 —— ADDRESS: user defined machine address

V. Regular trouble shooting:

1. Unstable weighing:
(1) Low voltage for accumulator: Switch off the scale immediately and recharge it more than 12 hours.
(2) Low intensity or strong shake for platform: Strengthen the platform or avoid shake.
(3) Influenced by the wind: Set a glass cover to reduce the influence of the wind.
2. No display when switch on the scale:
(1) Accumulator is unusable: Change the accumulator if it remains invalid after recharging.
(2) Broken with fuse or switch: Change the fuse or switch.
(3) Others: Send it for maintain.

VI. Transportation and storage:

1. Avoid shock and dampness during transportation.
2. Avoid strong sunshine and rain during storage.

VII.Accessories:

1. Instruction Manual ---1 2.Power supply wire---1

VIII.Attention:

1. Please read this instruction manual carefully before you use the scale.
2. If it has not be used for long time, please recharge it once 2 months at least, and keep the power switch on "off" status to avoid discharge of accumulator.
3.LCD of the scale must to be operated under rich light, you are advised to select product with backlight under low light condition.
4. Avoid collision when you put the weighting object on the scale.
5. It is strictly prohibited to use strong chemical solvent to clean the surface.
6. Please clean the scale with dry or wet dishcloth. Washing it with water is strictly prohibited.
7. **Please don't use the same power supply circuit together with the big power equipment, because the running of the big power equipment will influence the weighing.**

X. Caution:

1. If the weight window displays "—Lb—" when the weight is zero, it means the voltage of the accumulator is low. Under this condition, you can use the scale in a short time, but you should plug in the AC plug as soon as possible to recharge the accumulator, please recharge the accumulator for more than 12 hours.
2. **The accumulator is not included in freemaintain warrant.**